Informed Consent Cover Page

IRB Number: 17.1024 BB-PP-1

IRB Approval Date: 9/12/2023

Title: SPARC Bladder Mapping and Training Study

NCT03452007

UofL Institutional Review Boards
IRB NUMBER: 17.1024
IRB APPROVAL DATE: 09/12/2023

BB-PP-1

INFORMED CONSENT AND RESEARCH AUTHORIZATION

Functional Mapping with Lumbosacral Epidural Stimulation for Restoration of Bladder Function after Spinal Cord Injury

Sponsor assigned number: OT2OD024898

Sponsor name & address: NIH SPARC Common Fund
9000 Rockville Pike
Bethesda, Maryland 20892

Investigator(s) name, Degree, University Department, & address:

Charles Hubscher, PhD
Department of Anatomical Sciences & Neurobiology
220 Abraham Flexner Way, 15th Floor
Louisville, KY 40202

Susan Harkema
Department of Neurological Surgery
220 Abraham Flexner Way, 15th Floor
Louisville, KY 40202

Site(s) where study is to be conducted: Kentucky Spinal Cord Injury Research Center

Phone number for subjects to call for questions: (502) 581-8675

Introduction

You are invited to take part in this research study because you have enrolled in the main study and met the qualifications of this system. This is an addendum consent to the main consent form. All sections in the main consent still apply to this study and we will review the main consent with you, in addition to this addendum consent. The investigators are interested in better understanding how bladder function is altered after spinal cord injury. This study is being conducted under the direction of Charles Hubscher, PhD.and Susan Harkema, PhD. at the University of Louisville. Your participation in this study could last up to 2 years. We plan to recruit approximately 6 individuals for this study. This study is sponsored by the National Institutes of Health.

Purpose

Bladder dysfunction consistently ranks as one of the top disorders affecting quality of life after spinal cord injury. The overall objective of this study is to determine if epidural stimulation may be a method for improving bladder function after spinal cord injury. With the use of epidural stimulation, we propose to investigate how well your bladder can store or hold urine as well as void or empty urine. We would also like to test the long-term effects of epidural stimulation by using specific stimulation settings to train your bladder to hold or empty more urine over time. The results of this study may aid in the development of treatments to help individuals with spinal cord injuries that have impaired bladder function.

Procedures

At the beginning of the study, you will receive a set of initial assessments including, but not limited to:

- History and physical exam
- Urodynamics

UofL Institutional Review Boards
IRB NUMBER: 17.1024
IRB APPROVAL DATE: 09/12/2023

- Bladder and Kidney Ultrasound
- Ambulatory Blood Pressure and Heart Rate Monitoring (ABPM)
- Bladder, Bowel, Sexual Function, and Quality of Life Questionnaires
- Semi-Structured Interviews
- Voiding Diary/Log
- Urinalysis/Biomarkers
- SmartPill
- Surface myoelectric monitoring of the gastrointestinal tract (G-tech system)
- Anorectal Manometry (ARM)
- Functional Neurophysiological Assessment (FNPA)
- Multisegmental Monosynaptic Reflexes (MMR) stimulation
- Magnetic Resonance Imaging (MRI)
- Echocardiography (ECHO)
- Laboratory Blood Panel
- Random Comprehensive Drug Testing

For a complete description of all the assessments performed in this study, please reference the main consent. After these initial assessments, the investigators will review your data to further evaluate your eligibility for an epidural implant. If you qualify you will be asked to participate in bladder mapping studies in the laboratory, followed by 80 training sessions for the bladder after your epidural stimulator is implanted. Your participation in this study may last about 24 months.

Interventions

Bladder Mapping using spinal cord epidural stimulation

- You will have epidural stimulation conducted in the laboratory to adjust the stimulation settings necessary to affect bladder control.
- You will initially have stimulation in the laboratory where we will vary the settings of the epidural stimulation device during Urodynamics to find the best stimulation pattern that helps you hold more urine as well as empty more urine.
- We will monitor your blood pressure and heart rate throughout these sessions.
- Each session will last approximately 2 hours.

Bladder Training using spinal cord epidural stimulation

- Bladder training will be initially conducted in the laboratory where we will use a combination of stimulation settings identified during bladder mapping to effect bladder function.
- You will then be asked to take a "Patient Programmer" remote device home to turn the stimulation on and off and up and down within limits decided by the research team.
- You will use these settings during bladder training in the home setting for at least 80 sessions for bladder function (storage and emptying combined). We will use telehealth to connect with you in the home-setting and help you adjust the settings of stimulation for bladder storage and voiding.
- You may be asked to keep a weekly log of these sessions and return it to the research team at designated time points.
- We will ask that you return to the laboratory at various time points to adjust the stimulation, if needed.
- Blood pressure and/or heart rate will be recorded outside the laboratory using a portable device.
- During bladder training, the stimulation will be continuously on, but you may continue your activities of daily living. We will ask that you maintain your usual bowel program while you are undergoing bladder training.

Following bladder training, you will have the choice to continue or discontinue the home program.

Potential Risks

Any study can have risks involved. We will try to inform you of the risks and encourage you to ask questions about anything that you wish. The risks are placed into categories based on how severe the risk is and the seriousness of the harm that could happen. The severity can depend on your age, individual physical status, as well as the medication or intervention itself. Minimal risk would be the level of risk similar to those you would encounter in daily life or during routine doctor exams or tests. A minor risk is slightly increased and you may feel some discomfort from these events. A moderate risk event is more serious and could require medical intervention, treatment and follow up. The harm is reversible in these cases. A severe risk is much higher and the harm may not be reversible. Risks can be potentially severe depending on the nature of the event.

The frequency is an estimated range of the likelihood that the risk will occur to you. These are general ranges. Rare (0-10%), Less likely (11-30%), Likely (more than 30%) chance that these risks may occur from you being in the study. At any time depending on your condition a risk may increase to another level to be more severe. Again, please ask us if you are concerned about any particular risk and we will try to answer all your questions. There may also be new risks the we have not anticipated.
Refer to the main consent for the risks of the individual assessments. The intervention in this study may involve the following physical risks and/or discomforts:

Risks of Bladder Training

If you have any questions, please ask your Investigator/Study doctor for clarification.

Likely

- Autonomic dysreflexia symptoms (sudden high blood pressure) that resolves when the cause is removed (*individuals with an injury level above T6 and in those who have previously experienced these symptoms)
- Significant changes in heart rate/or blood pressure

Rare

- Autonomic dysreflexia symptoms (sudden high blood pressure) but the cause cannot be identified and the high pressure does not resolve and medical intervention is required (*individuals with an injury level above T6 and in those who have previously experienced these symptoms)

In addition, you may suffer harms that we have not seen before. If you should have any of these difficulties during assessments, we will stop. There are no reasonably foreseeable psychological risks, social risks, and/or legal risks. This study may involve risks that are currently unforeseeable.

Information Available on ClinicalTrials.gov

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this website at any time.

Benefits

We do not know the benefits of this study. Although there are no guarantees of benefits occurring during this experimental study, the information obtained from your participation in this study may help you and/or other patients who have/or will sustain spinal cord injuries in the future.

Alternatives

Instead of taking part in this study, you could choose to not participate.

Compensation

You will be paid by prepaid card for travel based on the federal mileage rate and parking fees up to $75 dollars per day while you are in the study. Because you will be paid to be in this study, the University of Louisville may collect your name, address, social security number, and keep records of how much you are paid. You may or may not be sent a Form 1099 by the University. This will only happen if you are paid $600 or more in one year by the University. This will not include payments you may receive as reimbursement for actual expenses based on receipts or actual miles traveled. We are required by the Internal Revenue Service to collect this information and you may need to report the payment as income on your taxes.

You can still be in the study even if you don't want to be paid.

HIPAA Research Authorization

Please refer to the main consent for information regarding HIPAA.

Revocation of Research Authorization

You may cancel the permission you have given to use and share your protected health information at any time. This means you can tell us to stop using and sharing your protected health information. If you cancel your permission:

- We will stop collecting information about you.
- You may not withdraw information that we had before you told us to stop.
  - We may already have used it or shared it.
  - We may need it to complete the research.
- Staff may ask your permission to follow-up with you if there is a medical reason to do so.

To cancel your permission, you will be requested to complete a written "Revocation of Research Authorization" form located at the end of this document. You may also obtain a copy from your study doctor, designated personnel or from the Human Subjects Protections Program Office website (http://louisville.edu/research/humansubjects/links-to-forms).

Confidentiality

Total privacy cannot be guaranteed. We will protect your privacy to the extent permitted by law. If the results from this study are published, your name will not be made public. Once your information leaves our institution, we cannot promise that others will keep it private. Please refer to the main consent for a list of groups that may receive your information.

The Department of Health and Human Services (HHS) has issued a Certificate of Confidentiality to further protect your privacy. With this Certificate, the investigators may not disclose research information that may identify you in any Federal, State, or local civil, criminal, administrative, legislative, or other proceedings, unless you have consented for this use. Research information protected by this Certificate cannot be disclosed to anyone else who is not connected with the research unless:

1) there is a law that requires disclosure (such as to report child abuse or communicable diseases but not for legal proceedings);
2) you have consented to the disclosure, including for your medical treatment; or
3) the research information is used for other scientific research, as allowed by federal regulations protecting research participants.

Disclosure is required, however, for audit or program evaluation requested by the agency that is funding this project or for information that is required by the Food and Drug Administration (FDA).

You should understand that a Confidentiality Certificate does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide consent to allow the researchers to release it. This means that you and your family must also actively protect your own privacy. Finally, you should understand that the investigator is not prevented from taking steps, including reporting to authorities, to prevent serious harm to yourself or others.

Voluntary Participation

Taking part in this study is completely voluntary. You may choose not to take part at all. If you decide not to be in this study, you won't be penalized or lose any benefits for which you qualify. If you decide to be in this study, you may change your mind and stop taking part at any time. If you decide to stop taking part, you won't be penalized or lose any benefits for which you qualify. You will be told about any new information learned during the study that could affect your decision to continue in the study.

Termination

Your study doctor or the study sponsor has the right to stop this study at any point. Your study doctor may take you out of this study with or without your okay. Reasons why this may occur include circumstances that arise which warrant doing so. The decision may be made either to protect your health and safety, or because it is part of the research plan that people who develop certain conditions may not continue to participate. If the study doctor believes that the pain or discomfort might pose a risk to you, you will be terminated from the study. If you become pregnant you will be terminated from this study.

Stopping of Study Procedures/Assessments

You or your advocate have the right to stop any study procedure/assessment at any time for any reason without any penalty to you.

Are there other reasons the study may stop?

The research nurse, study physician, investigators, advocate, or any study personnel can cancel or terminate the session if needed. The advocates can also stop a session for reasons of participant health, safety, and/or comfort. Your study investigator, study doctor, or the study sponsor has the right to stop this study at any point. Your study investigator or study doctor may take you out of this study with or without your okay. Reasons why this may occur include:

- You experience an injury or illness during the study period which makes it no longer safe for you to participate in the study,
- Information is learned that makes it no longer safe for anyone to participate in the study,
- You are unable to commit to coming to our facility to complete assessments and comply with the required training frequency and duration,
- You are unable to arrive on-time for procedures or training sessions that have been scheduled around availability provided by you.

UofL Institutional Review Boards
IRB NUMBER: 17.1024
IRB APPROVAL DATE: 09/12/2023

BB-PP-1

Acknowledgment and Signatures

This informed consent document is not a contract. This document tells you what will happen during the study if you choose to take part. Your signature indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in the study. You are not giving up any legal rights to which you are entitled by signing this informed consent document. You will be given a copy of this consent form to keep for your records.

Subject Name (Please Print)	Signature of Subject	Date Signed

Printed Name of Legally Authorized Representative (if applicable)	Signature of Legally Authorized Representative	Date Signed

Authority of Legally Authorized Representative to act on behalf of Subject

*Authority to act on behalf of another includes, but is not limited to parent, guardian, or durable power of attorney for health care.

Printed Name of Person Explaining Consent Form	Signature of Person Explaining Consent Form	Date Signed

List of Investigators:	Phone Numbers:
Charles Hubscher, PhD	(502) 852-3058
Susan Harkema, PhD	(502) 581-8975

UofL Institutional Review Boards
IRB NUMBER: 17.1024
IRB APPROVAL DATE: 09/12/2023

BB-PP-1

REVOCATION OF AUTHORIZATION FOR USE AND DISCLOSURE OF YOUR HEALTH INFORMATION FOR RESEARCH

PI Address: 220 Abraham Flexner Way
Louisville, KY 40206
PI Phone: (502) 581-8675

Return To:

OR

Institutional Review Board
MedCenter One, Suite 200
501 E. Broadway
Louisville, KY 40202

Do not sign this letter unless you are withdrawing from this research. You will be sent confirmation that this notice was received.

To Whom It May Concern:

I would like to discontinue my participation in the research study noted above. I understand that health information already collected will continue to be used as discussed in the Authorization I signed when joining the study.

Your options are (***choose one***):

☐ **Withdraw from Study & Discontinue Authorization:**
Discontinue my authorization for the future use and disclosure of protected health information. In some instances, the research team may need to use your information even after you discontinue your authorization, for example, to notify you or government agencies of any health or safety concerns that were identified as part of your study participation.

☐ **Withdraw from Study, but Continue Authorization:**
Allow the research team to continue collecting information from me and my personal health information. This would be done only as needed to support the goals of the study and would not be used for purposes other than those already described in the research authorization.

_____ _____
Printed Name and Signature of Subject Date Signed

_____ _____
Signature of Subject's Legal Representative (if subject is unable to sign) Date Signed

_____ _____
Printed Name of Subject's Legal Representative Birthdate of Subject

_____
Relationship of Legal Representative to Subject

_____ _____
Subject's Address Subject's Phone Number

Optional:
I am ending my participation in this study because:

_____
_____